

Amendment
Serial No. 10/669,716
Attorney Docket No. 031217

REMARKS

Claims 1-4, 6, 9 and 11 are pending in the above-identified application. Claims 1, 6 and 11 are amended. No new matter is added. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated June 21, 2005.

Claim 11 was objected to because of a grammatical informality (i.e., extra semi-colon.) Applicants amend claim 11 to correct this informality. Accordingly, Applicants respectfully request that the Examiner withdraw this objection.

Claims 1-4, 6-9 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Kanno 820* in view of *Gregory* and *Kanno 188*. Applicants amend claims 1, 6 and 11 to recite *the actuator driving means drives the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is drops gradually lowered to the predetermined speed.* The cited references, either alone or in combination, fail to disclose, teach or suggest this limitation. Therefore, in view of this amendment and the following remarks, Applicants respectfully request that the Examiner withdraw the rejections of claims 1-4, 6-9 and 11.

None of the cited references, either alone or in combination, teaches or suggests providing "[a] system for controlling a speed of an internal combustion engine installed in an outboard motor mounted on a boat and having a propeller powered by the engine to propel the boat, the engine having a throttle valve that regulates air to be sucked, comprising...engine speed discriminating means for discriminating whether the detected engine speed exceeds a

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predetermined speed when it is detected that the trouble has occurred in the engine; and actuator driving means for driving the actuator to move the throttle valve in the closing direction such that the engine speed drops, when it is discriminated that the detected engine speed exceeds the predetermined speed, wherein the actuator driving means drives the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed.”

For example, *Kanno 820* fails to disclose an engine speed discriminating means as recited in claim 1. *Kanno 820* relates to a lubrication system alarm control system which initiates an alarm when lubricant pressure within the lubrication system falls below an acceptable pressure. [Abstract.] In *Kanno 820*, the alarm system reads the engine speed. The engine speed is then used by a control subroutine 280 to calculate an alarm pressure threshold (e.g., if lubricant pressure is less than the alarm pressure threshold, then the control subroutine initiates an alarm.) [FIGS. 7 and 8.] Therefore, even if one were to characterize, although incorrectly, the alarm system 254 reading the engine speed as an “engine speed discriminating means”, then the reference still fails to teach that the alarm system 254 discriminates whether a detected engine speed exceeds a predetermined speed when it is detected that the trouble has occurred in the engine. [Claim 1.] Accordingly, this limitation is missing from the combination of references.

Also, *Kanno 820* fails to disclose, teach or even to suggest an actuator driving means driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed. [Office Action, p. 3,

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(acknowledged by the Examiner)] However, the Examiner asserts that *Kanno 188* discloses in column 5, lines 55-60 that an ECU can be used to open and close the throttle valve with a stepper motor and that it would have been obvious to replace actuator 86 of *Kanno 820* with a stepping motor as taught by *Kanno 188*...to close the throttle by an amount repeatedly such that the engine speed drops gradually. Applicants respectfully, yet strongly disagree with the Examiner's position for at least the following reasons.

Kanno 188 teaches that "the valve shaft assembly 112 can be operable by the watercraft operator through a suitable mechanism that can comprise a throttle cable 114, a non-linear linkage 116, a control lever 118 and a bias spring 120...When the operator operates the throttle cable 114, the mechanism actuates the valve shaft assembly 112 to open the throttle valves 110...Preferably the spring 120 operates to close the valves when the opening force provided by the cable 114 is removed or reduced." [col. 5, lines 40-53.] Such a mechanical apparatus does not solve the vibration problems faced by a skilled practitioner seeking to provide an engine speed control system that lowers the engine speed without causing the engine to vibrate when a trouble has occurred in the engine. [p. 1, lines 12-23.]

In rejecting these claims, the Examiner placed great emphasis on the fact that *Kanno 188* states that "an electronic control mechanism can be used to open and close the throttle valves. For instance, a stepper motor can be used to move the throttle valves." [col. 5, lines 57-60.]

Yes, *Kanno 188* does recite that a stepper motor can be used to move the throttle valves. However, the Examiner failed to consider why *Kanno 188* finds this to be an acceptable

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alternative to using a throttle cable 114 and linkage 116. According to *Kanno 188*, if one wants to move the throttle valves, either use a cable/linkage or electronic control mechanism (flip a coin – one reading of *Kanno 188* gets the distinct impression that it doesn't matter.)

Also, the references cited by the Examiner clearly miss the problem. The inventors of the present application discovered the source of the vibration problem and the solution thereof [see page 9, lines 18-20 (by closing the throttle valve 70V *little by little*, the engine 16 does not vibrate and the operator is prevented from experiencing unpleasant feelings.)) Accordingly, an object of the present invention is to provide an engine speed control system that lowers the engine speed without causing the engine to vibrate when a trouble has occurred in the engine. To accomplish this objective, the present application claims, in part, an actuator driving means for driving the actuator to move the throttle valve in the closing direction by an amount repeatedly such that the engine speed drops gradually, when it is discriminated that the detected engine speed exceeds the predetermined speed [claim 1.]

Kanno 188 does not teach the aforementioned problem or its source. Although, as discussed above, *Kanno 188* briefly discusses using a "stepper motor" to move the throttle valves (column 5, lines 59-60), it would not have been obvious to combine the references to include the stepper motor so that it will *open and close the throttle valve by an amount repeatedly such that the engine speed is gradually lowered to the predetermined speed*. *Kanno 188* only discusses using a stepper motor as an example of an electronic control mechanism that can be used to open and close the throttle valves [column 5, lines 57-60.] *Kanno 188* does not discuss using the

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stepper motor to close the throttle valve by an amount repeatedly such that the engine speed *is gradually lowered to the predetermined speed.*

Nevertheless, even if one were to combine the teachings of *Kanno 188* and *Kanno 820*, it still would not have been obvious to use the teachings of *Gregory* to have the disable 270 of *Kanno 820* drive the stepping motor of *Kanno 188* provided to *Kanno 820* to close the throttle by an amount repeatedly such that the engine speed *is gradually lowered to the predetermined speed.* This is because, in part, *Gregory* discloses a system that includes a sensor, a controller, an actuator and a throttle linkage. In the *Gregory* system, the sensor supplies signals to the controller indicative of whether the sensor is submerged in water or airborne. The controller uses the signals supplied by the sensor to switch the actuator between a first state (in which the throttle valve is at the user-selected setting) and a second state (in which the throttle is at the idle setting.) [Abstract.]

Accordingly, the Examiner's proposed combination would not have been obvious. The Examiner has failed to present actual evidence and particular findings related to any motivation to combine the teachings of these references. Therefore, Applicants respectfully request that the Examiner withdraw the obviousness rejection of claims 1, 6 and 11. As claims 2-4 and 9 depend from claims 1 and 6 respectively, these claims should likewise be allowable by nature of their dependency.

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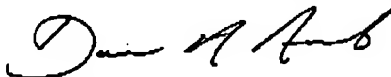
In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants respectfully request such action at an early date.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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